

DEVICES, METHODS AND SYSTEMS FOR WIRELESS CONTROL OF MEDICAL DEVICES

CROSS REFERENCE TO RELATED APPLICATIONS

[0001] The present application is a Continuation of U.S. patent application Ser. No. 14/173,359, filed Feb. 5, 2014 and entitled Devices, Methods and Systems for Wireless Control of Medical Devices, now U.S. Pat. No. 10,195,343, issued Feb. 5, 2019 (Attorney Docket No. L72), which is a Non-Provisional application which claims the benefit of U.S. Provisional Patent Application Ser. No. 61/760,988, filed Feb. 5, 2013 and entitled Devices, Methods and Systems for Wireless Control of Medical Devices (Attorney Docket No. K30); and U.S. Provisional Patent Application Ser. No. 61/842,687, filed Jul. 3, 2013 and entitled Devices, Methods and Systems for Wireless Control of Medical Devices (Attorney Docket No. K82), each of which is hereby incorporated herein by reference in their entireties.

[0002] U.S. patent application Ser. No. 14/173,359, is also a Continuation-in-Part Application of U.S. patent application Ser. No. 14/236,381, filed Jan. 31, 2014 and entitled Devices, Methods and Systems for Wireless Control of Medical Devices (Attorney Docket No. K11) which is a '371 Application of International Application Serial No. PCT/US12/71280, filed Dec. 21, 2012 and entitled Devices, Methods and Systems for Wireless Control of Medical Devices, now International Publication No. WO 2013/096789, published Jun. 27, 2013 (Attorney Docket No. K11WO), which is an International Application claiming priority to U.S. patent application Ser. No. 13/332,896, filed Dec. 21, 2011 and entitled Devices, Methods and Systems for Wireless Control of Medical Devices, now U.S. Publication No. US-2012-0238851-A1, published Sep. 20, 2012 (Attorney Docket No. 198), each of which is hereby incorporated herein by reference in their entireties.

[0003] U.S. patent application Ser. No. 14/173,359, is also a Continuation-in-Part Application of U.S. patent application Ser. No. 13/332,896, filed Dec. 21, 2011 and entitled Devices, Methods and Systems for Wireless Control of Medical Devices, now U.S. Publication No. US-2012-0238851-A1, published Sep. 20, 2012 (Attorney Docket No. 198), which is a Continuation-in-Part Application of U.S. patent application Ser. No. 13/021,000, filed Feb. 4, 2011 and entitled Infusion Pump Apparatus, Method and System, now U.S. Publication No. US-2011-0319813-A1, published Dec. 29, 2011 (Attorney Docket No. 154), which claims priority to U.S. Provisional Application Ser. No. 61/301,957, filed Feb. 5, 2010 and entitled Infusion Pump Apparatus, Method and System (Attorney Docket No. H91), each of which is hereby incorporated herein by reference in their entireties.

TECHNICAL FIELD

[0004] The present disclosure relates to medical devices and more particularly, to a system for controlling at least one medical device.

BACKGROUND INFORMATION

[0005] Many potentially valuable medicines or compounds, including biologicals, are not orally active due to poor absorption, hepatic metabolism or other pharmacoki-

netic factors. Additionally, some therapeutic compounds, although they can be orally absorbed, are sometimes required to be administered so often it is difficult for a patient to maintain the desired schedule. In these cases, parenteral delivery is often employed or could be employed. [0006] Effective parenteral routes of drug delivery, as well as other fluids and compounds, such as subcutaneous injection, intramuscular injection, and intravenous (IV) administration include puncture of the skin with a needle or stylet. Insulin is an example of a therapeutic fluid that is self-injected by millions of diabetic patients. Users of parenterally delivered drugs may benefit from a wearable device that would automatically deliver needed drugs/compounds over a period of time.

[0007] To this end, there have been efforts to design portable and wearable devices for the controlled release of therapeutics. Such devices are known to have a reservoir such as a cartridge, syringe, or bag, and to be electronically controlled. These devices suffer from a number of drawbacks including the malfunction rate. Reducing the size, weight and cost of these devices is also an ongoing challenge. Additionally, these devices often apply to the skin and pose the challenge of frequent re-location for application.

[0008] Managing multiple medical devices simultaneously for a single user presents challenges. One includes the hardware, for many medical devices include a designated interface and with respect to medical devices that are wirelessly controlled, multiple "controllers" or "hand helds" present logistical challenges. Firstly, the variety of interfaces may be difficult to transfer attention from one to another and to master. Secondly, recharging multiple devices may present a challenge and thirdly, carrying the multiple controllers, together with the medical devices, presents challenges.

SUMMARY

[0009] In accordance with one aspect of the present invention, a medical device system is disclosed. The system includes a first medical device, a first remote interface, and a second remote interface in communication with the first remote interface and the first medical device, wherein the first medical device sends a command to the first medical device through the second remote interface, and wherein when the second remote interface receives the command, the command must be confirmed by the second remote interface before the command is sent by the second remote interface to the first medical device.

[0010] Some embodiments of this aspect of the invention may include one or more of the following. Wherein the first medical device is an infusion pump. Wherein the first remote interface is a medical device data system. Wherein the second remote interface is not a medical device data system. Wherein the system further comprising a blood glucose meter in communication with the second remote interface. Wherein the system further comprising a continuous glucose monitor transmitter in communication with the second remote interface. Wherein the first remote interface receives a command related to the communication of safety critical information to the first medical device, displays a message that the communication of the safety critical information to the first medical device requires confirmation using the second remote interface, sends the communication to the second remote interface, and once confirmation received by the second remote interface, the second remote interface communicates the command to the first medical device.